

### REMARKS

Claims 1-25 and 28 are currently pending in the present Application. In the Office Action dated January 9, 2008, the Examiner rejected claims 1-5, 8, 19 and 28 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,995,989 to Gedcke et al. (hereinafter "Gedcke"). Claims 6, 7, 9-15, 16-18 and 20-25 were objected to as being dependent upon a rejected base claim, but indicated to be allowable if rewritten in independent form. Applicant respectfully requests reconsideration of the rejected claims in view of the arguments and remarks set forth below.

Independent claim 1 is directed to a method for compressing mass spectrometry data and recites, inter alia, steps of "carrying out a statistical analysis of noise within the read data to obtain at least one statistical moment or parameter related to the distribution of the noise" and "storing information related to the identified peaks *along with the at least one obtained statistical moment or parameters.*" [emphasis added]. As described in the present specification, the at least one statistical moment or parameter relating to noise distribution that is derived from the mass spectrometry data and subsequently stored with the peak information may include the average or expectation value EN and the variance DN (see, e.g., p. 9, ¶2). Storage of the statistical moment(s) or parameter(s) characterizing the noise distribution along with the peak information serves several significant objectives, including but not limited to aiding algorithms that perform tasks such as substance identification from mass spectra (see p. 13).

In support of the rejection of claim 1, the Examiner cited col. 3, lines 12-30 of Gedcke as teaching the foregoing claim limitation of storing peak information along with the at least one statistical moment/parameter characterizing the noise distribution. Applicant respectfully submits that the Examiner's interpretation of the cited section of Gedcke is erroneous. Gedcke does not disclose or suggest storage of one or more statistical moments or parameters characterizing the noise distribution. Instead, Gedcke teaches that it may be advantageous to store, in addition to the data points representing peak information, a sample of the data points representing the background signal (i.e., noise). Gedcke teaches two different ways in which this may be done: first, by storing data for a prescribed number of data points immediately preceding

and following a peak (col. 3, lines 14-25; col. 7, lines 35- 49) or second, by storing data for every  $n^{\text{th}}$  data point, without regard to the position of the data points with respect to any peaks (see col. 3, lines 25-30; col. 7, lines 49-57). In each case, Gedcke teaches storage of data points representing noise rather than, as is specified by claim 1, storage of statistical moments/parameters characterizing the noise distribution. It should be appreciated that the claimed technique offers several advantages over the Gedcke technique, including the potential for improved compression and the ability to recreate from the stored information full mass spectra that appear essentially identical to the uncompressed spectra.

Since Gedcke does not disclose the limitation of storing peak information along with the at least one statistical moment/parameter characterizing the noise distribution, the rejection of claim 1 under §102(b) is improper and should be withdrawn. Applicant further notes that neither Gedcke nor any of the other prior art references of record provide any reason or motivation to adapt the Gedcke technique such that at least one statistical moment/parameter is stored rather than a sampling of the data points representing noise.

Independent claims 19 and 28 are believed to be patentable over Gedcke for at least the reasons advanced above in connection with claim 1. In particular, both claims 19 and 28 recite limitations of deriving at least one statistical moment/parameter representing noise in the spectral data, and storing the statistical moment(s)/parameter(s) with the peak information. As discussed above, Gedcke fails to teach or suggest the storage of the noise-related statistical moment(s)/parameter(s) with the peak information.

Finally, dependent claims 2-18 and 20-25 are submitted to be patentable over Gedcke by virtue of their dependency on allowable claims.

In view of the foregoing arguments, all of the pending claims in the Application are submitted to be allowable, and passage of the Application to issue is requested. The Examiner is invited to contact the Applicant's undersigned representative if it is believed that such action will be helpful to advance prosecution. The Commissioner is hereby authorized to charge any fees determined to be due in connection with this paper to Deposit Account 50-3267.

Respectfully submitted,

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